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Book Review

CELLULAR CANCER MARKERS
Carleton T. Garrett and Stewart Sell, Editors.
Totowa, NJ: Humana Press, 1995, pp. 477.

It is clearly an ambitious undertaking to write a book titled "Cellular Cancer Markers" when both the basic research within this field and related clinical applications are growing so rapidly. In this field where new genes and cellular mechanisms are being described in nearly every periodical focusing on cancer and/or genetic research, it should be expected that such a book would be at least somewhat "out-of-date" prior to its release, giving it a limited "shelf-life." Clearly, this book (published in 1995) does not contain, nor should one expect it to contain, the latest information in the cellular and molecular biology of cancer. The editors of this book, Drs. C.T. Garrett and S. Sell, both widely published in this field, clearly recognized this challenge and wisely chose to limit their text to a small number of well-characterized topics in the field while addressing potential future directions of this field. In addition, their final chapter, Chapter 17—"Summary and Perspective: Assessing Test Effectiveness—the Identification of Good Tumor Markers," is essentially timeless as a general discussion about the qualities of a good cancer marker, including excellent discussions of sensitivity, specificity, and cost-effectiveness.

Our increased understanding of the molecular and cellular mechanisms underlying human malignancy has ushered in an exciting new era in molecular oncology. Information gained through basic research over the past decade has been making its way into the clinical arena for presymptomatic risk assessment, diagnostic testing, prognostic evaluations, and therapeutic strategies for a wide variety of malignancies. It is likely that this translation of basic science research to clinical applications will continue to increase, fostering rapidly expanding, profitable biotechnology enterprises. As geneticists, it is likely that we will be faced with increasing questions from our colleagues and patients regarding cancer risks and potential molecular genetic strategies for evaluation and management. Therefore, although this book is geared toward pathologists, oncologists, and laboratory medicine physicians and scientists, it covers an area in medicine that is increasingly important for all health care professionals and scientists studying human disease. Anyone who has a basic background understanding of cancer genetics and cellular biology would be able to appreciate the content of this book.

The book contains 484 pages and consists of 17 chapters to which 35 different authors have contributed their individual expertise. After an informative introductory chapter, "Clinical Application of Genetic, Oncogenic, and Differentiation Markers of Cancer," which uses breast cancer as an example to highlight some general concepts of cellular cancer markers, the next three chapters focus on one specific, relatively well-characterized molecular genetic marker, including a chapter on each of the following—*ras*, p53, and C-*myc*. The following eight chapters then look at these and other markers specifically as related to a particular body system or organ. Chapters focus on gynecological malignancies, colon cancer, breast cancer, lung cancer, Wilms tumor, non-Hodgkin's lymphomas, Hodgkin's disease, melanoma, and minimal residual disease of leukemia and lymphoma. The remaining three chapters preceding the concluding chapter address some molecular mechanisms that have already contributed to, or have potential future promise to play a key role in, the therapy of malignancy. These chapters contain information about P-glycoproteins, antitumor monoclonal antibodies, and antisense oligonucleotides.

One strength of this book is that all of the chapters are relatively comprehensive, clearly written, and can stand alone. The level of detailed knowledge reflects the individual expertise of the many different authors. The multiauthorship nature of the book, however, is also one of the downfalls of this book. There is redundancy in the presentation of background information (such as Knudson's two-hit hypotheses of tumor suppressor genes) and also in some of the specific information. This also weakens the organization of the book. For instance, information about cellular cancer markers in breast cancer is obviously included in the well-written chapter devoted entirely to breast cancer (Chapter 7). Additional relevant (but somewhat redundant) information about breast cancer, however, is included in three other chapters—the introductory first chapter, the chapter devoted to p53 (Chapter 4), and the chapter focusing on C-*myc* (Chapter 3). The overall quality of the individual chapters is variable. Although the majority of the chapters have clearly written text and are well referenced, there are clear discrepancies among authors regarding the use of figures and tables. For instance, Chapter 16, "Targeting Antisense Oligonucleotide Chemotherapy to the Type I Regulatory Subunit of cAMP-Dependent Protein Kinase" by Yoon Sang Cho-Chung, would have been more appealing to me if it had a few more figures to illustrate the main points of the text. Chapter 6, "Genetic Alterations in Colon Cancer," which is very well written and extensively referenced by Sunhail Nasin and Careleton T. Garrett, contains 36 pages of comprehensive text with only two general, relatively generic, introductory tables in the entire chapter. Readers, including myself, who benefit from the visual presentation of information and/or strongly believe in the powerful utility of clear tables and figures, are left somewhat disappointed by the lack of good figures and tables in some of the chap-

ters. Additionally, although it should be anticipated that some of the information presented in this book will be out-of-date, there are differences among chapters regarding how current the information is. For instance, in the chapter on breast cancer, information that was published in the fall of 1994 regarding the cloning and characterization of *BRCA1* and mapping of *BRCA2* is included. However, in the chapter on melanoma, no information about p16/*MTS1*/*CDNK2* is presented—information that was first published in the spring of 1994, several months before the *BRCA1* cloning and *BRCA2* mapping papers.

Overall, this book is relatively good for the diversity and detail of subject matter. It may be useful to the readers of this journal who want to increase their general knowledge of molecular and cellular mechanisms underlying carcinogenesis. Certainly any laboratory-based geneticist who is interested in developing molecular tests for cancer should at least take a look at this book and at least read through the final chapter. However, individuals interested in learning about the most recent developments regarding molecular mechanisms involved in a particular malignancy or a favorite cancer gene would be better served by reading recent journal articles.

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